

91-458

UNITED STATES PATENT AND TRADEMARK OFFICE

H. Bennett

Art Unit: 3404

Re: Application of:

Heikki ILVESPAA

Serial No.:

07/808,161

Filed:

December 13, 1991

For:

METHOD AND APPARATUS FOR
REDUCTION OF CURLING OF PAPER
IN THE DRYING SECTION OF A
PAPER MACHINELETTERHon. Commissioner of
Patents and Trademarks
Washington, D.C. 20231

October 20, 1994

Sir:

Transmitted herewith is proposed revised claim 8 which will serve as the basis for a discussion of this application with the Examiner of record.

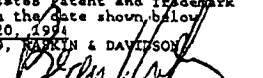
Please hand carry to Examiner Bennett.

Respectfully Submitted,

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8. (Amended Four Times) A drying section of a paper machine, comprising

at least one drying section group comprising a plurality of drying cylinders for drying a paper web having opposed bottom and top sides, said drying cylinders each having a heated surface,

a drying wire running in a meandering fashion over said drying cylinders, said drying wire pressing the bottom side of the paper web against said heated surfaces of said drying cylinders,

at least one steam box arranged in said drying group and comprising a counter-face which, together with a free face of the paper web, defines a contact-free steam-treatment gap in said drying group, said steam box extending substantially across an entire transverse width of the paper web,

said steam box being positioned in a location after the bottom side of the web has separated from one of said heated surfaces of said drying cylinders and applying steam onto the bottom side of the web to raise the temperature of the bottom side of the web and control a moisture gradient in a direction of thickness of the paper web between the paper web sides substantially across an entire width of the paper web such that tensions that have been formed or that tend to be formed in the fiber mesh of the paper web are relaxed by means of heat and moisture in the area of their formation or substantially immediately thereafter, and said steam box applying steam to the paper web during the run of the paper web on a wire through the drying section [constituting means for controlling the moisture gradient in the thickness direction of the

paper web between the paper web surfaces] such that [a moisture profile in a direction of thickness of the paper web is controlled and] the tendency of the paper web to curl is prevented in the run of the paper web through the drying section.